

WHAT IS CLAIMED IS:

1. A thermal transfer element comprising:
a thermal transfer layer capable of being selectively transferred from the thermal
5 transfer element when the thermal transfer element is exposed to imaging radiation;
a light-to-heat conversion layer comprising a material that absorbs imaging
radiation to convert the radiation into heat; and
an interlayer disposed between the light-to-heat conversion layer and the
transfer layer, wherein the interlayer comprises an inorganic material and is a barrier to
10 the transfer of material from the light-to-heat conversion layer during transfer of the
thermal transfer layer from the thermal transfer element.
2. The thermal transfer element of claim 1, wherein the thermal transfer
layer comprises a phosphor.
- 15 3. The thermal transfer element of claim 1, wherein the interlayer
comprises a pigment.
4. The thermal transfer element of claim 1, wherein the interlayer does not
20 visibly distort or decompose under imaging conditions.
5. The thermal transfer element of claim 1, wherein the interlayer remains
substantially intact when the thermal transfer layer is transferred from the thermal
transfer element.
- 25 6. The thermal transfer element of claim 1, wherein the thermal transfer
layer is transferred from the thermal transfer element without transferring significant
portions of the interlayer.
- 30 7. The thermal transfer element of claim 1, further comprising a second
interlayer disposed between the interlayer and the light-to-heat conversion layer.

8. The thermal transfer element of claim 7, wherein the second interlayer remains substantially intact when the thermal transfer layer is transferred from the thermal transfer element.

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9. The thermal transfer element of claim 7, wherein the second interlayer comprises an organic material.

10. The thermal transfer element of claim 1, wherein the interlayer comprises a metal.

11. The thermal transfer element of claim 1, wherein the interlayer comprises a metal oxide.

12. The thermal transfer element of claim 1, wherein the interlayer comprises an inorganic oxide.

13. The thermal transfer element of claim 1, wherein the interlayer further comprises an organic material.

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14. A thermal transfer element comprising:
a thermal transfer layer capable of being selectively transferred from the thermal transfer element to a receptor when the thermal transfer element is exposed to imaging radiation;

25 a light-to-heat conversion layer comprising a material that absorbs imaging radiation to convert the radiation into heat; and

an interlayer disposed between the light-to-heat conversion layer and the transfer layer, wherein the interlayer comprises an inorganic material and reduces the transfer of material from the light-to-heat conversion layer to the receptor during transfer of the thermal transfer layer from the thermal transfer element to the receptor.

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15. The thermal transfer element of claim 14, wherein the thermal transfer layer comprises a phosphor.

16. The thermal transfer element of claim 14, wherein the interlayer
5 comprises a pigment.

17. The thermal transfer element of claim 14, wherein the interlayer does not visibly distort or decompose under imaging conditions.

10 18. The thermal transfer element of claim 14, wherein the interlayer remains substantially intact when the thermal transfer layer is transferred from the thermal transfer element.

19. The thermal transfer element of claim 14, wherein the thermal transfer
15 layer is transferred from the thermal transfer element without transferring significant portions of the interlayer.

20. The thermal transfer element of claim 14, further comprising a second interlayer disposed between the interlayer and the light-to-heat conversion layer.

20 21. The thermal transfer element of claim 20, wherein the second interlayer comprises an organic material.

22. The thermal transfer element of claim 20, wherein the second interlayer
25 remains substantially intact when the thermal transfer layer is transferred from the thermal transfer element.

23. The thermal transfer element of claim 14, wherein the interlayer
comprises a metal.

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24. The thermal transfer element of claim 14, wherein the interlayer comprises a metal oxide.

25. The thermal transfer element of claim 14, wherein the interlayer
5 comprises an inorganic oxide.

26. The thermal transfer element of claim 14, wherein the interlayer further comprises an organic material.

10 27. A process for transferring an image onto a receptor, the process comprising the steps of:

providing on a substrate a light-to-heat conversion layer, a thermal transfer layer, and an interlayer disposed between the light-to-heat conversion layer and the thermal transfer layer, wherein the interlayer comprises an inorganic material;

15 placing the thermal transfer layer in contact with a surface of the receptor; and
irradiating the light-to-heat conversion layer in an imagewise pattern with a light source to effect a separation between the thermal transfer layer and the light-to-heat conversion layer and a thermal transfer of portions of the thermal transfer layer corresponding to the imagewise pattern to the receptor.

20 28. The process of claim 27, wherein the interlayer does not visibly distort or decompose under imaging conditions.

29. The process of claim 27, wherein the interlayer remains substantially
25 intact when the thermal transfer layer is transferred from the thermal transfer element.

30. The thermal transfer element of claim 27, wherein the thermal transfer layer is transferred to the receptor without transferring significant portions of the interlayer.

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31. The process of claim 27, wherein a second interlayer is disposed between the interlayer and the light-to-heat conversion layer.

32. The process of claim 31, wherein the second interlayer remains substantially intact when the thermal transfer layer is transferred from the thermal transfer element.

33. The process of claim 31, wherein the second interlayer comprises an organic material.

34. The process of claim 27, wherein the interlayer comprises a metal.

35. A thermal transfer element comprising:
a thermal transfer layer capable of being selectively transferred from the thermal transfer element to a receptor when the thermal transfer element is exposed to imaging radiation;
a light-to-heat conversion layer comprising a black pigment that absorbs imaging radiation to convert the radiation into heat; and
an interlayer disposed between the light-to-heat conversion layer and the transfer layer, wherein the interlayer comprises an inorganic material.

36. The thermal transfer element of claim 35 wherein the interlayer is metal.

37. The thermal transfer element of claim 36 wherein the metal is aluminum, chrome or silver.

38. A thermal transfer element comprising:
a thermal transfer layer capable of being selectively transferred from the thermal transfer element when the thermal transfer element is exposed to imaging radiation;
a light-to-heat conversion layer comprising a material that absorbs imaging
5 radiation to convert the radiation into heat; and
an interlayer disposed between the light-to-heat conversion layer and the transfer layer;
wherein the interlayer comprises an inorganic material and provides a surface for releasing the transfer layer for selective transfer when the thermal transfer element is
10 exposed to imaging radiation.